

## REMARKS

Reconsideration of this application and the allowance of the rejected claims 1-28 are respectfully requested. Applicant has attempted to address every ground for rejection in the Office Action dated November 13, 2008 (Paper No. 20081103) and believes the application is now in condition for allowance. The specification and the claims have been amended to more clearly describe the present invention.

Claims 26-28 are rejected under 35 U.S.C. §101 because the Examiner states that the claimed invention is directed to non-statutory subject matter. Specifically, the Examiner states that the claimed process does not result in a physical transformation or it is not limited to a practical application. Claims 26-28 have been cancelled.

New claim 29 is directed to a device for automated evolutionary assistance to an air traffic computer including a software program that establishes a data link with aircrafts and selects and modifies potential conflicts on crossing trajectories of those aircraft. The modifications are automatically performed so as to not interfere with air traffic controllers' responsibilities. The aircraft agendas are then updated and displayed to the air traffic controllers.

Similarly in new claim 50, the automated process elaborates and displays controllers' agendas to the controllers, determines conflicts between

aircrafts, selects new conflicts which can be modified, and transfers the modifications by data link to the aircraft for execution by the auto pilot.

As stated above, both new claims 29 and 50 are directed to a device including a software program that establishes a data link with aircrafts and selects and modifies potential conflicts on crossing trajectories of those aircraft. The modifications are automatically performed so as to not interfere with air traffic controllers' responsibilities. The aircraft agendas are updated and displayed to the air traffic controllers. Thus, there is a physical transformation (i.e., modifications of the aircraft agendas) as required under Section 101 where the agendas are displayed to controllers. Applicant therefore submits that claims 29 and 50 are directed to statutory subject matter under Section 101.

Claims 1-28 are rejected under 35 U.S.C. §112, second paragraph as being unclear or indefinite. Applicant cancelled claims 1-28 and added new claims 29-51. Applicant corrected or removed the objectionable subject matter from new claims 29-51 and therefore requests that the rejection of the claims under Section 112 be withdrawn.

Claims 1-28 are rejected under 35 U.S.C. § 103(a) as being unpatentable over the combination of U.S. Patent No. 6,314,362 to Erzberger, U.S. Patent No. 5,961,568 to Farahat and U.S. Patent No. 5,212,804 to Choate. Applicant cancelled claims 1-28 and added new claims 29-51. With respect to

new claims 29-51, Applicant disagrees with and traverses this rejection for the following reasons.

Erzberger discloses an automated tool for en route traffic controllers searches for and identifies tracked aircraft and their associated flight plans and selects those aircraft that have one or more direct routes that would reduce the flight time to a destination. The tool then identifies potential conflicts along the selected routes and updates the flight plan when a tracked aircraft would benefit from the direct routes. Farahat teaches a communication subnetwork that is used to communicate between aircraft and a traffic control system. Choate teaches a radio-telephone system for communicating with aircraft.

In contrast, new claim 29 recites, among other things, a device for automated assistance to air traffic computers including a software program that includes the steps of “means for selecting potential conflicts on crossing trajectories which can be solved by modification(s) of aircraft speed, climbing or descending rates, lateral shift of route, said modification(s) being so minor as to not interfere with the current controllers’ decision-making processes,” “means for automatically transmitting said modification(s) via said data-link to said selected aircraft without controllers’ prior agreement, said modifications of flight parameters staying within the limits of the fuzziness of the controllers’ vision and thereby being ‘subliminal’ to the controllers” and “means for executing said

modifications by automating means in said selected aircraft.” The cited combination fails to disclose such subject matter.

Erzberger automatically identifies all aircraft eligible for direct routes and determines and displays the corresponding time savings for changing the existing routes to include one or more direct routes. Erzberger’s approach is intrinsically “non-subliminal” since the disclosed automated tool does not directly transfer modifications to the on-board computers of the aircraft. Erzberger merely displays the routing information to air traffic controllers in a list sorted by the routes providing the highest or greatest time savings. Specifically, the Erzberger system does not automatically modify the flight parameters as recited in new claim 29. Instead, the air traffic controllers must read and analyze the information displayed to them and then act accordingly. Thus, the system in Erzberger requires air traffic controllers to take some action (i.e., non-subliminal) before an aircraft’s flight plan or route is modified.

In contrast, the claimed invention utilizes a “subliminal” approach by allowing the computer to automatically dissolve or remove the conflicts between aircraft without interfering with a controller’s independence and responsibilities.

Farahat discloses cooperative resolution of air traffic conflicts by utilizing a computer method that places a local goal position in a potential field associated with the aircraft, updates the position of velocity of each aircraft and

removes the local goal position from the potential field. Farahat fails to disclose or suggest automatically transmitting modifications to flight parameters to aircrafts that are “subliminal” to air traffic controllers.

Choate discloses a communication system having multiple base stations and multiple mobile units that controls multiple two-way radio conversations between large numbers of aircraft. Choate does not remedy the deficiencies of Erzberger and Farahat.

New claim 50, recites among other things, an automated process for assistance to aircraft controllers that includes a computer programmed for “selecting problems which can be solved by modification(s) of aircraft speed, climbing or descending rates, lateral shift of route so minor as they do not interfere with current controllers’ decision-making processes” and “transferring said modification(s) via data-link to aircraft as clearances for being executed by auto-pilot means within said aircraft without controllers’ prior authorization...” As stated above, the automatic transferring of modifications to an aircraft to alter the aircraft’s flight parameters without prior review and/or authorization from air traffic controllers is not disclosed or suggested by the cited combination of references.

For the above reasons, Applicant submits that new claims 29 and 50, and the claims that depend therefrom, are each patentably distinguished over the combination of Erzberger, Farahat and Choate and in condition for allowance.

In view of the above remarks, the application is respectfully submitted to be in allowable form. Allowance of new claims 29-51 is respectfully requested. Should the Examiner discover there are remaining issues which may be resolved by a telephone interview, the Examiner is invited to contact Applicant's undersigned attorney at the telephone number listed below.

Respectfully submitted,

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